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ABSTRACT

The Motivate and Stimulate for Excellence project was designed to provide academically above-average primary and intermediate level elementary school students at 10 project schools with enrichment activities to enhance their critical thinking and problem-solving skills. Process and product evaluations assessed the extent to which project activities were implemented as specified in the program proposal and the extent to which specific project objectives were attained. Data collection included examination of records, observation of project activities, survey via questionnaire, and interviews with program personnel. Pretesting and posttesting using the Developing Cognitive Abilities Test and the Ross Test of Higher Cognitive Processes assessed student gains in higher level cognitive skills involving analysis, synthesis, and evaluation. Results indicated that most project activities occurred as specified in the program proposal. Most parents, participating students, and teachers reported positive feelings about the program. Overall, test data indicated that substantial increases in higher level cognitive skills occurred across all grade levels for participating students. The report includes an overview of other academic programs for advanced students; appendices provide guidelines for contracting and managing external research-evaluation services, survey forms, and other related materials. (RH)

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NOVA UNIVERSITY

FEB 1 1985

COMPREHENSIVE EVALUATION OF AN ADVANCED ACADEMIC PROGRAM FOR ELEMENTARY-SCHOOL STUDENTS

PRACTICUM II SUBMITTED TO THE FACULTY OF THE
EARLY CHILDHOOD EDUCATION PROGRAM
IN CANDIDACY FOR THE DEGREE OF

DOCTOR OF EDUCATION

by

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NOVA UNIVERSITY
CLUSTER 13

JANUARY, 1985

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ABSTRACT

Comprehensive Evaluation of an Advanced Academic Program for Elementary-School Students
Goldinher, Martin R., 1984: Major Practicum Report, Nova University
Ed.D. Early Childhood Education Program
Descriptors: Elementary Education/Gifted/Enrichment/Critical Thinking/Problem Solving/Evaluation Methods/Program Evaluation

This practicum addressed both the extent to which the Motivate and Stimulate for Excellence (MASE) project activities occurred as specified in the program proposal (process) and the extent to which specific project objectives were attained (product). The MASE project was designed to provide academically above-average elementary school students, at ten project schools, with enrichment activities to enhance their development of critical thinking and problem solving skills.

Data collection activities included examination of records, observation of project activities, surveying via questionnaire, and conducting interviews with program personnel. Pre and posttesting using the Developing Cognitive Abilities Test (DCAT) and the Ross Test of Higher Cognitive Processes was used to assess student gains in higher level cognitive skills.

The results of this evaluation indicate that most project activities occurred as specified in the program proposal. Most of the parents, project students, and teachers reported positive feelings about the MASE program. The DCAT and Ross Tests were used to determine the extent to which participating students evidenced gains in higher level cognitive thinking skills (analysis, synthesis, and evaluation). Overall test data indicated that substantial increases in higher level cognitive skills were evidenced across all grade levels for participating students.

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CHAPTER I

INTRODUCTION

A. AUTHOR'S WORK SETTING, ROLE, AND RESPONSIBILITIES

The Dade School System is a county unit, the fourth largest system in the nation, and the second largest business operation in Florida, following only the State government.

The Dade school district serves 223,854 students in 174 Elementary schools, 46 Jr. High schools, 24 Sr. High schools, and 6 alternative school centers. the ethnic composition includes 39% Hispanic, 32% Black, 28% White, and 1% Asian/American Indian (Refer to Appendix A for complete derivation).

The school district is divided into four areas each under the administration of an area Superintendent and administrative staff. Responsibility for administration of the schools is vested in the district superintendent, appointed by the Board. Management of the schools is totally independent of metropolitan and city governments. The Metropolitan government collects the school tax for the school system but exercises no control over its use.

The seven-member School Board is elected by countywide vote to serve overlapping four-year terms. Regular, open meetings are held in the Board auditorium twice a month on Wednesday at one

o'clock.

The 1983-84 operating budget (in Millions of Dollars) is $944.8 of which 43.4% ($354.4) is from local funding, 5.5% ($45.1) from Federal sources, and 51.1% ($416.6) from State revenues. The 1983-84 assessed value of taxable property in Dade County was $45,027,724,550 with an operating millage rate of 5.5 which generated $235,269,859 in revenue.

The school district employs a total of 27,987 full and part-time personnel (full-time 20,412, part-time 7,575) with teachers representing the largest number (14,058) at an estimated average annual salary of $22,235 (excluding fringe benefits). While the national median expenditure per pupil of the largest school districts' is $2,786, Dade county expends $2,391 per pupil. Montgomery County, MD. has the highest expenditure at $3,817 per pupil and Hawaii expends the least with an average expenditure of 1,826 per pupil (Educational Research Service, 1982-83).

ROLE AND RESPONSIBILITIES

The author holds the position of Assistant Supervisor in the Office of Educational Accountability. This is an administrative position and was attained through application and interview via the management selection process. The Assistant Supervisor's function includes, but not limited to, the following responsibilities:

1. Obtains and/or assists in acquiring and analyzing data and reporting conclusions.

2. Designs and coordinates testing at the school level for assessments of program evaluations.

3. Formulates behavioral objectives which are amenable to accepted testing or evaluation procedures, and writes reports on research projects.

4. Designs and/or assists in planning and implementing instrumentation and procedures appropriate to testing and/or evaluation plans.

5. Meets with district and school level personnel to plan, establish, and monitor test administration.

6. Conducts internal audits of Federal, State, and locally funded programs and prepares written reports based upon the results of those audits.

7. Assists in computer applications for scoring, screening, and reporting assessment results.

The Office of Educational Accountability (OEA) is directed by an Assistant Superintendent who reports directly to the Superintendent of schools. The OEA functions as a data collection department and provides information to decision makers relating to the viability, cost effectiveness, and merit, of current operational programs. Feasibility studies, external research contracting (Appendix B), monitoring district wide standardized testing, and analyzing computer generated data are also functions of the department.

CHAPTER II

BACKGROUND

The 1983-84 Motivate and Stimulate for Excellence (MASE) Project was funded in the amount of $245,802 under the Education Consolidation and Improvement Act (ECIA), Chapter II. The project was designed to provide academically above-average students (grades 1-6) with enrichment activities to enhance their development of critical thinking and problem solving skills. Students were selected primarily on the basis of scores on the Cooperative Pre-School Inventory or appropriate versions of the Stanford Achievement Test, depending on their grade levels (Appendix C).

PROGRAM GOALS AND OBJECTIVES

The scope and intent of the MASE Program was to offer students an enrichment program in a learning environment designed to increase individual ability to think creatively in an ever changing environment. Academic disciplines were used as a vehicle to meet project objectives.

PROGRAM RATIONALE

There were many students in Dade County schools who were not being served in the regular program because they were above average with no discernible problems. This program was aimed at focusing on the needs of these above average students with high stanine scores on standardized tests who did not attend or

qualify for gifted programs in the schools. It should be noted here that the eligibility selection criteria also included a provision for students who were qualified for the Gifted program who did not participate in the Gifted program during the previous school year were also eligible for participation. Only a small percentage (6%) of these eligible students were found to be participating in the MASE program.

It was anticipated that the program would provide students an enrichment vehicle with which to increase and develop their higher level process skills such as critical thinking and problem-solving abilities. Various academic disciplines (math, reading, social studies, and science) were to be used as vehicles for instruction in the higher level cognitive skills.

PROGRAM ORGANIZATION

The MASE program was designed as a pull-out model housed in a laboratory setting and staffed by highly motivated classroom teachers to promote academic excellence. Approximately 75-110 students were to be served by each of the nine full time MASE schools and the one half-time school was to serve between 35-55 students. Students were scheduled to participate in the program 3 to 5 days per week for a total time of 180 to 300 minutes per week. The following approach was planned to incorporate these objectives and the major school system objectives (Appendix D) to " challenge students beyond the minimum expected...".

a. The program will use teachers who are creative, dynamic, challenging, encouraging, and divergent thinkers who will provide learning experiences that are broad and process-oriented. Teachers will be expected to work with students 300 minutes a day.

b. The small teacher-pupil ratio allows for individual attention, small-group instruction and immediate feedback. It is hoped that students will share their lab experiences with other classmates, siblings and parents.

c. Innovative methods and materials allow for greater verbal interactions, creative activities, process-oriented activities and ungraded lessons with decreased pressure, but increased creative thinking.

PROBLEM STATEMENT

The MASE program will probably be terminated if it cannot be conclusively demonstrated that participating students are increasing their problem solving abilities and gaining in higher level thinking skills.

EVIDENCE AND CAUSES OF THE PROBLEM

Information obtained by the author at the participating schools (via interviews with administrators, parents, and teachers) yielded a general concern that the MASE program would be terminated by the Federal Projects office unless it could be shown that the program had merit and achieved the desired goals and objectives.

Due to the numerous requests for proposals (RFP's) and limited resources, many programs are not routinely evaluated, with priority given to the most "sensitive" programs such as exceptional child programs, reading and basic skills programs, bilingual education, chapter I programs, and programs with high political-economic ramifications. Advanced academic programs, such as this one, are usually omitted from the evaluation

priority schedule. This omission, as with many programs, frequently results in a termination of funds even though a program may be viable and beneficial. Due to the bureaucracy and politicization impinging on all programs in general, there exists the danger of many programs not being re-funded due to a lack of adequate information regarding them.

In large school districts, such as Dade, programs are routinely terminated unless evidence can be shown to support programs that have potential and may only require minor modifications for optimal efficacy . Advanced academic programs usually access a relatively small population thereby reducing the amount of influence they can exert on local School Boards for funding. Programs that involve larger numbers of children such as the Basic Skills Program or Chapter I receive much more attention and responsivity due, in large part, to their vociferous constituency.

LITERATURE REVIEW

WHO ARE THE GIFTED AND TALENTED?

A widely accepted definition is the 1972 U.S. Office of Education, which was revised in 1978 to read:

(The gifted and talented are) ".... children and , whenever applicable youth who are identified at the preschool ,elementary, or secondary level as possessing demonstrated or potential abilities that give evidence of high performance capability in areas such as intellectual, creative, specific academic or leadership ability or in the performing and visual arts, and show by reason thereof require services or activities not ordinarily provided by the school." (U.S. Congress educational amendment of 1978, P.L. 95-561 IX, A.)

This definition recognizes not only high general intelligence, but gifts in specific academic areas, in the arts, creativity, and leadership. It is thus a multidimensional definition of gifts and talents. The definition also acknowledges that gifted/talented students require differentiated educational programs and services beyond those normally provided. Our society's children are, by and large, brighter and more knowledgeable than past generations could have dreamed about. Students now come to school with vocabularies that surprise us in more ways than one! They may not be better students, but the same old thing just does not work in today's classroom. If in Abraham Lincoln's day students were starving for information, today's children are replete and overflowing with it.

The issue of describing gifted and talented students is not a simple one. There are a great many types of gifts and talents. Intellectually gifted students may differ from each other and from the creatively gifted, artistically gifted, or mathematically gifted. Despite these differences there are characteristics of gifted and talented students which repeatedly appear in the literature. The overriding trait of very bright students is their developmental advancement in language and thought. Therefore, intellectually gifted children and adolescents should demonstrate the following: (Education of the Gifted and Talented: A Primer)

1. Early and rapidly developing language ability, reflecting advanced conceptual, abstraction, and comprehension abilities.

2. A large vocabulary.

3. A substantial store of information and well developed retrieval system.

4. High curiosity, reflected in much question-asking, reading, and wide interests.

5. High perceptiveness, keen observational abilities, and greater awareness.

6. Superior judgment, evaluation, decision making, and critical thinking abilities: ability to see implications and consequences.

7. Strong powers of reasoning, analysis, and synthesis; preference for finding answers " in their own way."

8. High interest in problem solving or other intellectual challenges and activities (e.g., logic problems, chess, etc.).

As a professor of philosophy at Columbia University, Dr. Matthew Lipman (personal communication, Dec 6, 1983) became aware of the low level of thinking skills many students bring even to prestigious colleges. He decided that if the problem was to be dealt with effectively, it would have to be attacked before poor thinking habits had become entrenched perhaps even as early as elementary school. He wrote a book that would demonstrate how children might behave in a genuine "community of inquiry." He wrote a short children's novel called Harry Stottlemeir's Discovery. It opens with Harry, a thoughtful boy who makes a mistake in class one day. He hears his teacher explain that all planets revolve around the sun. Then lost in a daydream, he completely misses the explanation about comets, which also revolve around the sun. When the teacher asks Harry, "what has a long tail, and revolves about the sun once every seventy-seven years?" Harry can only conclude that it, too, must be a planet.

The class laughs at his mistake and an embarrassed Harry thinks to himself: "All planets revolve about the sun, but not everything that revolves about the sun is a planet" (Brandt, 1982).

In 1974 Lipman resigned from Columbia and founded the Institute for the Advancement of Philosophy for Children (IAPC), which is housed on the grounds of Montclair State College in New Jersey. With the help of a government grant, he published Harry, wrote an instructional manual and , in 1975, started training teachers in Newark, N.J., to teach Harry to 4th and 5th graders. Currently over 3,000 schools across the country now use Lipman's program, and Harry is one of the hottest textbooks in education today. Before Dr. Lipman came upon the idea, no one had thought of teaching philosophy to children. He is now demonstrating that this once thought-of thought may be the answer to the problem of teaching children to think.

Many people assume that the main purpose of evaluation is to determine whether a program is effective. Most praticing evaluator's, however, align themselves to the formative/summative distinction made by Scriven (1967). The general purpose of formative evaluation is to assist in developing a new program while summative evaluation serves to assess the general overall effectiveness of an operational program. Harless (1973) calls activities oriented toward decisions about program installation "front-end" analysis. Front-End Analysis is a method to assist the evaluator identify "Key Features" in programs that contribute to its effectiveness. It is important to determine which factors

influence the program's operation and contribute most to an understanding of it. It is also important to learn what types of information are of major concern to various "Interest Groups." While these groups usually include teachers, students, and school personnel, they may also include persons who may be involved in the program indirectly (e.g., business community, cultural groups, etc.). It is quite likely that many of the interest groups will share some of the same concerns, but each group will also have some relatively unique interests.

Careful work in Front-End analysis will help focus on the most relevant concerns of each group. It should be remembered that Front-End Analysis is essentially an "input" or information gathering activity, therefore, the evaluator should avoid making judgments at this stage of the process. The main objective is to be become thoroughly familiar with the program so that meaningful Key Features can be identified. The four procedures used in Front-End Analysis are as follows:

1. Review of Documents: Careful and comprehensive review of all written material relating to the program.

2. Open-Ended Questionniares: A representative sample of each Interest Groups should be accessed to determine the values and concerns of the respondents.

3. Interviews with Representatives of Prime Interest Groups: Evaluator should begin the interview with the Director and persons involved in the planning phase of the program to gain an understanding of how the program was ideally conceived, and then work down to teachers and students to gain an understanding of actual program operation.

4. Observation: Observing a program can clarify and verify some of the concerns expressed or identified through previous input procedures.

In summary, the overall activities for "Front-End" Analysis include needs assessment, testing for conception, and appraising the adequacy of resources for implementation.

Since the MASE program is currently operational the focus of this evaluation was concerned with the summative process, though it should be remembered that the purposes of evaluation are not necessarily mutually exclusive. Summative evaluation corresponds to Purpose II definitions as postulated by Anderson and Ball (1983) in which the component purpose is to contribute to decisions about program continuation, expansion (or contraction), or certification (licensing, accreditation etc.).

Summative evaluation, or impact evaluation is seen by many as the essence of evaluation. Was the program "worthwhile" is the question that decision makers many times ask evaluator's to address. Tunnel vision, in limiting oneself to estimating how effectively a program meets its intended goals, may encumber or distort the representation of a program's actual impact. Intended or unintended outcomes are variables that may be extremely important side-effects and deserve close examination and attention.

Robert Stake (1967) characterizes the two basic acts of formal educational evaluation as description and judgment, both of which should be carried out to the fullest extent. There must be an effort to spell out antecedent conditions and classroom

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interactions, and to couple them with various program outcomes. Stake proposes that the evaluator consider three types of information which he terms antecedent, transaction, and outcome data. Antecedent data are any data or conditions existing prior to the teaching and learning experience which may relate to the program outcomes. Transactions are the countless encounters which comprise the process of education, the dynamic interactions between teacher and student, author and reader, parent and counselor, etc. Finally, outcomes involve the impact of instruction and the consequences of the program, both immediate and long-range.

Daniel Stufflebeam (1971) defines evaluation as a decision-making process which involves three major steps: delineating the information to be collected, obtaining the information, and providing the information to decision makers. Such information, if valid, reliable, timely and credible, should enable decision makers to judge the relative value of alternatives with which they are faced. Stufflebeam identifies four types of decisions which can be made in educational settings, namely, planning, structuring, implementing, and recycling decisions. Corresponding to the four types of educational decisions are four kinds of evaluation: context, input, process and product. These are the key components of the CIPP evaluation model. They come at different times in the evaluation process, and also serve different decision-making functions.

Evaluation as defined by Malcom Provus (1972) encompasses three

processes: agreement upon program standards, program assessment, and program improvement. The model is intended to facilitate design changes and data gathering essential to making judgments about the effectiveness of a program. The information collected may be used to determine whether to maintain or terminate a program at any stage of its development. The model is intended to guide the evaluator in making comparisons between a program and its design on one hand and a series of agreed-upon program standards on the other. The evaluator collects information essential to program improvement and notes descrepancies between performance and standards.

The model developed by Maurice J. Eash (1971) was designed specifically for the evaluation of new and innovative programs. Since programs for the gifted and talented are often characterized by flexibility and innovation, Eash feels that new programs need the freedom to evolve and clarify objectives as experience dictates. He formulated a three-stage evaluation methodology that parallels the stages of program maturation. Evaluation is carried out along a continuum, with each stage of a program being evaluated in terms of its particular activities and goals. The dimensions Eash identifies for consideration in the evaluation process for each program model are: effort, effect, and efficiency . Perhaps the most valuable feature of Eash's model is its allowance for modifications in program objectives over time.

Curriculum evaluation based on scores from norm referenced tests (e.g., Ross, DCAT) represent only one dimension of the MAGE

program evaluation. Programs for Student's exhibiting advanced academic achievement presents a difficult problem for the evaluator because "higher level cognitive" objectives cannot be easily measured. The traditional and rigid behavioral objectives model is inappropriate for programs for these students because it mandates attention with those behaviors that are easily measured. Scriven (1967) has noted that " putting pressure on a person to formulate his goals, to keep them, and to express them in testable terms may enormously alter his product in ways that are certainly not always desirable."

Stake (1973) points out that the errors of testing increase markedly when we move form highly specific areas of performance to items which attempt to measure higher mental processes and higher levels of problem-solving ability. In addition to the measurement problems implicit in the aforementioned paragraph, problems often surface when norm-referenced tests , developed for general populations, are used for a population at the upper end of the intellectual continuum. Another statistical problem encountered is the "regression toward the Mean' effect (Campbell & Stanley, 1967). Although this is a complex statistical phenomenon, it simply states that if students' scores are initially high on the pretest, it is quite likely their posttest scores will actually decrease, or move toward the mean, due to the regression effect. Therefore a great deal of caution should be observed when interpreting these data on this population.

There is pervasive cynicism that exudes from much of the writing on evaluation research, a cynicism based on the view that most evaluations elicit negative findings. Freeman (1979), in his review of the "Present Status of Evaluation Research", expressed the opinion that the preponderance of negative impact findings has diminished evaluation research utilization potential. He recommends that " in view of the experience of the failure of most evaluations to come up with positive impact findings, evaluation researchers probably would do well to encourage the 'biasing' of evaluations in the direction of obtaining positive results." He goes on to explain that evaluators need to engage in a more active role in helping to design programs that have some hope of demonstrating positive impact, based on treatments that are highly specific and carefully delineated.

The MASE program will focus on the needs of above-average students with high stanine scores on standardized tests (Stanford Achievement) who do not attend or qualify for the Gifted (IQ 130+) program within the school district. Since the characteristics of the MASE students are unique (i.e., high in creativity but who do not score in the gifted range on IQ tests), the curriculum needs of these students must be individualized and appropriate for their level of intellectual development. Studies by Gallagher (1966), and a number of others (Dellas & Gaier, 1970), concluded that even though the low (although still above average) IQ groups have lowered measured intelligence than the high IQ (130+) groups, there are no differences between their levels of achievement. Although

Gallagher also posits that an IQ score of at least 120 is necessary for high achievement even if a child is highly creative, this writer does not support that contention. While the IQ levels of students participating in the MASE are not known, since IQ is not a criterion for eligibility, it can be hypothesized that there is wide variability of IQ scores within the participating students. Getzels & Jackson (1962) identified characteristics of the high creative, low (in terms of giftedness) IQ groups as follows:

1. Shows a preference for humor, social stability, and wide range of interests rather than IQ scores, character, and goal directedness.

2. More interested in seeking satisfaction for their interests and aspirations than in pursuing success as defined by society.

3. Writes stories that are less stimulus-bound and that use more humor, novel situations, and unexpected endings than the high IQ group.

It strongly appears that the majority of students participating in the MASE program fall in the above mentioned category. Wallach and Kogan (1965) characterized members of this group as being in angry conflict with themselves, and their school environment, they conclude, however, these children can perform well cognitively.

The major strengths of this group, then, are in the area of creativity characteristics, with weaknesses concentrated in leadership and, somewhat, in learning. These students seem to have more of a sense of personal responsibility than a social

responsibility and are more concerned with developing their own interests than responding to the wishes of others. Lym & Rick (1980) found that when these identified students participated in a resource room enrichment program, they evidenced accelerated development of cognitive skills involving the manipulation of verbal, numerical, and spatial symbols. Quantitative scores showed the greatest increase and there was a comparatively large increase in the nonverbal scores of fourth grade students. The study was field tested on academically accelerated fourth, fifth, and sixth grade students in 65 elementary schools. The subjects were pre- and posttested on the Cognitive Abilities tests using a norm referenced research design to control for normal development.

OVERVIEW OF OTHER ADVANCED ACADEMIC PROGRAMS

A recent report by the Milwaukee Public Schools (1983) forwarded to this author revealed a program for the Gifted and Talented in which the following statement reveals the definition of who may enroll in the Gifted and Talented. Students are selected on the basis of their ability, achievement, study skills, self-confidence, creative talents, and leadership qualities. The teachers and parents nominate students and those accepted are selected at random on the basis of sex, age, and race. Both of the two schools where the programs are housed (one for grades 4 and 5 and one for grades 6,7,and 8) are racially balanced and closely approximates the ethnic composition of the community. The candidate nomination forms are then completed and forwarded

to the committee for review and decision.

CRITERIA: Ability, school performance, creativity, leadership, self-confidence, and study skills. School personnel match teacher recommendations with parent requests. In cases where there is not a match, the principal or guidance counselor contacts parents for input. There are 225 placements available for grades 3, 4, & 5. Students are randomly selected on the basis of sex, grade and ethnicity.

CURRICULUM: Electricity and energy problems; French immersion program; Industrial Education; Home Economics; Computers in Math and Science and Instrumental Music. The program is also supplemented with field trips.

STRUCTURE: Each grade level includes three classrooms. One teacher per 25 students teaching all subjects. However, some teachers group children from different classrooms for Reading and Math.

Information from the Chicago School District (Programs and Services for the Gifted and personal communication with Richard Ronvik, Dec 13, 1983) reveals that its programs for gifted and talented children are built upon the rationale that all children should have the opportunity to develop in relationship to their abilities. Therefore, basic considerations for developing a program for gifted children should include:

Recognition of the need to provide educational opportunities suitable to individual characteristics.

Willingness to introduce new elements into the school curriculum and instructional procedures.

A large portion of the Chicago public schools program for gifted children has been developed cooperatively between the Chicago Board of Education and the Illinois Office of Education. Proposals for school programs and district centers sent to the Chicago Gifted Program Office Department of Government Funded

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Programs, will be considered for approval and funding. It is to be understood that state funding will be extended only when programs are operated in compliance with the reimbursement guidelines established by the state office and the Chicago Gifted Program Office.

These guidelines require that the program:

1. Include definite curriculum adaptations or teaching methods for specified groups or types of students identified as gifted by local criteria.

2. Include specific identification and selection procedures for gifted students consistent with the nature of the program to be offered.

3. Provide activities that are distinct from those offered in the regular classroom.

4. Include activities beyond recall and simple comprehension that focus more in the areas of analysis, synthesis, and evaluation.

5. Provide that each pupil be involved in at least 150 minutes of special activity each week during the regular school day of the regular school year.

6. Provide for the guidance and counseling services needed to meet the unique needs of gifted children.

7. Provide some systematic plan of evaluation pertinent to the objectives of the program.

8. Receive no funding for teachers' salaries, the purchase of equipment, or the transportation of students.

The state of Illinois deliberately uses an operational definition for giftedness: "The gifted student is one whose mental ability is accelerated to the extent that he/she can profit from special educational services." This open-ended definition requires the local school to state the specifics of its criteria for a gifted child and to explain the rationale for considering the selected students as "gifted."

A summary of the specific requirements for selecting students for a gifted program is as follows:

1. Identification criteria for the selection of children for gifted programs must be established before the children are selected.

2. A minimum of three factors must be involved in such identification.

3. Part of the criteria used should be based on objective data where nationally standardized tests are used as a portion of the criteria, specific cutoff points must be indicated.

4. If teacher recommendation or administrative nomination is used as a part of the criteria for selection, a checklist of observable student behaviors should be included.

5. The criteria for selection should have a direct relationship to the type of program being provided.

6. The criteria for selection should be applied equally to every child in the target population.

7. Students who have been classified in the special education categories of emotionally disturbed, socially maladjusted, early remediation approach, learning disability, speech impaired, visually impaired, hearing impaired, and physically handicapped, should not be precluded from consideration for gifted program selection procedures.

8. Student participation should be voluntary and should require parental consent.

The Detroit school district offers advanced academic programs for high school students one of which is the Renaissance High School program. this program offers a special curriculum for academically oriented students. Admissions are based on the students' academic ability and on a balance of enrollments as to city area, sex and race.

1. Academic achievement will be determined on the basis of the students' grades in academic subjects, which will count 30% and on achievement tests in reading and mathematics, which will count 70%.

2. To qualify for possible admission , a student must:

   a. Have a grade of "B" in mathematics, an averall average of "B" in other subjects, and no grades below "C."

   b. Rank at or above the 50th percentile in standardized reading and mathematics tests.

3. Each area of the city of Detroit has a specified number of students selected for admission. An applicant's area will be the school administrative area of his or her residence. The freshman class admitted each year will have no more than 60% of either sex. For each race, the class will be within 15% of the racial makeup of the total district student population as indicated on the annual fourth Friday count.

To enhance academic opportunities for students, the Board of Education has jointly sponsored with Wayne State University an Advanced Academic Preparation Program (A2P2). This program consists of optional college preparatory classes which will prepare students for advanced placement, academic internship, and other accelerated learning opportunities during their high school years. The classes are taught by Wayne State University faculty on the university campus (M. Minor, personal communication, January 14,1984).

The Duval County School District in Jacksonville, Florida offers a Challenge Program for students in grades 10-12. This program provides the opportunity for skill development in the area of the student's interest/expertise through advanced, accelerated study as provided by one or more of the Instructional Program Modules: Leadership, Creative Problem Solving, The Arts, and The Sciences. The student's success is determined by the attainment of objectives set forth in each module. Emphasis is on the skills and abilities the student will need to be successful in the

pursuit of his/her education and vocation: research skills, product development, computer literacy and interpersonal skills. The Challenge Program for the Gifted is designed to be highly individualized with advanced, accelerated study under the direction of a teacher/facilitator and a university professor and/or a community expert. The teacher is responsibile for matching the learner with an appropriate mentor; developing, with the learner, his/her course of study; meeting daily with the student to review the student's progress, and monitoring all aspects of the learner's program.

The mentor component of the Challenge Program for the Gifted offers extension of individualized study to college campus facilities and/or community facilities. The learners have the opportunity to interact with university professors and/or community experts on a regularly scheduled basis. Some students will meet with their mentor once a week for an hour a week. Others may be scheduled for 2 or 3 hours on a less frequent interval. Each student whose program included a mentor could expect to see that mentor 12-18 hours a semester (Duval County Public Schools, 1983).

The Critical Thinking Project of the Pittsburgh Public Schools (Monitoring Achievement in the Pittsburgh Schools, 1983) aims to help students develop skills for thinking critically and communicating critical thought through reading, discussion, and essay writing within the social studies curriculum. The project, which began in September 1982, has three related components

(i.e., instruction, assessment, and staff development). It involves selected teachers and supervisors from the school district in the development, adaptation, and use of the instructional techniques, the diagnostic tests, and the staff development itself.

The assessment of this project is designed to provide feedback to teachers regarding the success of their instruction in skills for critical thinking and to students regarding their success in mastering those skills. The fact that the committee has decided to use essay tests reflects the belief that these skills are best taught and measured by asking students to express their thoughts through speaking and writing. The tests closely parallel instruction by asking students to apply the skills of summary, classification, inference, or evaluation to the ideas they encounter in reading selections and then to communicate their thoughts using topic statements, evidence, explanations, conclusions, and logical organization.

All tests are developed by the steering committee. A test booklet consists of (a) a brief reading passage which is selected based upon its relevance to the social studies curriculum, the amount and accuracy of evidence which it contains, and its inherent interest to students; (b) a set of direction preceding the reading passage to help students focus on the aspects of the passage that are relevant to the essay question; (c) the essay question itself, which specifies what is expected of students; and (d) a lined space for writing, directly opposite the reading selection, so that students may easily refer back to the passage

as they write.

The completed essays are scored by the classroom teacher using the diagnostic scoring guide developed by the steering committee. As the word "diagnostic" implies, the purpose of the guide is not to grade the student, but rather to provide specific information for the teacher to use in giving feedback to the student and in planning future critical thinking lessons.

Three administrations of the tests are planned for the school year (November, February, and May). Classroom teachers will score their students' essays using the diagnostic guide and then confer with the students about the strengths and weaknesses of their essays. A sample of the essays is double-scored by the steering committee in order to determine whether teachers have a common understanding of the score points. Other assessment activities include a self-report questionnaire for all teachers and a series of classroom observations with volunteer teachers. These activities will help determine the extent of the project's effect on teaching practices and in designing future staff development activities.

It is the committee's hope that critical thinking will become an integral part of the social studies curriculum. The Pittsburgh School committee does not see instruction in critical thinking as an "add-on" to the curriculum, but rather as a means through which the content already covered in the curriculum can best be taught.

The Talented and Gifted Program (TAG) was originally designed as

a full-time enrichment program for academically talented students in the Dallas Independent School District (Dr.William Webster, personal communication, Jan 23, 1984). It was first implemented at the K.B. Vanguard School in grades 4-6 in 1976-77. The program was successful in its first year and was next expanded to grades 7-8 and to 27 intermediate schools (part time) in grades 4-6. In 1978 the program was expanded again, this time to an additional 38 intermediate schools. In 1980 TAG was in operation in 67 schools in 4 subdistricts. Primarily a supplemental enrichment program, TAG focuses on the areas of logical reasoning and expansive thinking.

A student may be admitted to the TAG program by earning a score (80 on the percentile scale for large cities) on the Iowa Tests of Basic Skills (ITBS) as a screening test in Reading or Mathematics, or by receiving a high score (53 on a scale from 0 to 80) on the referral form from a teacher familiar with the student. Each year more than 15% of the students newly admitted to TAG in grade 4 have been accepted by reason of a high referral score only and not for high achievement on the ITBS.

In 1980-81 grade 4 contained 44 students who had scored below the 25th percentile on the ITBS Reading test when used as a screening test. When these students were retested after 6 months of TAG instruction, 30% scored at or above the 50th percentile on ITBS Reading test (Meier, 1981).

CHAPTER III

ANTICIPATED OUTCOMES AND EVALUATION INSTRUMENTS

The evaluation of this program addressed both the extent to which program activities occur as specified in the project document (process) and the extent to which specific program objectives were attained (product). Data collection activities by the author included examination of records, observation of program activities, surveying via questionnaire and conducting interviews with program personnel. The following section provides an overview of the general approaches that were taken in the evaluation.

EVALUATION OF THE EXTENT TO WHICH STUDENT PARTICIPANTS MEET THE CRITERIA ESTABLISHED FOR ADMISSION INTO THE PROGRAM.

The author developed a Roster of Participants Form that was completed by school level personnel at each of the project schools. Information included on the form were students' names, grade levels, and scores from the standardized achievement tests used to determine program eligibility. Examination of the completed participant rosters will allowed a determination of the extent to which participating student's were identified on the basis of the eligibility criteria. This examination also permitted a determination of the number of students being served by the project.

GOALS AND METHODOLOGY: Based upon the information included in the rosters, a determination was made as to the number of students being served at each school site. This goal was considered met if the total number of students at each site did not exceed five (5) students less than the required 75 student minimum. It should be remembered, however, that the eligibility criteria for student selection allowed principals the discretion of selecting additional students for the program with lower test scores if the application of the test score criteria resulted in the identification of too few students. Students who were eligible for the Gifted Program (IQ 130 +) and who had not participated in that program during the year were also considered for participation.

EVALUATION OF THE DURATION AND SCHEDULE OF INSTRUCTIONAL ACTIVITIES

A schedule of MASE instructional sessions was obtained from each project school. Provision of this information allowed a determination of such things as the number of instructional sessions, the number of days per week that students participated in MASE instructional activities, and the size of the instructional groupings. This information was compared to duration and schedule specifications as stated in the project proposal.

GOALS AND METHODOLOGY: The total number of instructional groups was computed to determine if the amount of exposure time was congruent with the project proposal. If 90% of the instructional groups met the minimum amount of contact time (180 minutes per

week) the goal was realized. If any school scheduled students for the maximum time of 300 minutes per week it was noted in Chapter V, however, no goal was set for maximum exposure (over 300 minutes per week). It was not anticipated that schools would be able to serve, or schedule, any group of students for more than 300 minutes per week using a resource (pull-out) model.

EVALUATION OF THE EXTENT TO WHICH PARTICIPATING STUDENTS EVIDENCE GAINS IN THE AREAS OF CRITICAL THINKING AND PROBLEM SOLVING

Pre and Posttesting of all student participants was conducted by project personnel at each of the participating schools. The author selected the Developing Cognitive Abilities Test (DCAT) for the primary students (grades 1-3) and the Ross Test of Higher Cognitive Processes for intermediate (grades 4-6) students.

Both instruments have high reliability and appeared to be valid in assessing critical thinking and higher level problem solving skills. The tests are based on the theoretical constructs of Bloom's Taxonomy of the Cognitive Domain (Appendix E) and Piagetian Cognitive-Structural theory. An analyses of each grade level was performed to determine the extent of improvement of students in these cognitive skill areas. (refer to Evaluation Instruments section for information on the DCAT and ROSS)

GOALS AND METHODOLOGY: Pre and Posttesting was completed by the project teachers. For each grade level median percentile ranks were obtained and profiled by the author for comparsion with the pre and posttests. Median percentiles were used because in cases of extreme scores, the median scores reflected more accurately the "average" performance of the sample group and was not

prejudiced by extreme scores. If overall gains between the pre and posttesting can be realized, allowing for maturation inference can be made that a "trend" toward higher level cognitive skills was attained as a direct result of program exposure.

EVALUATION OF THE ATTITUDES OF STUDENTS AND PARENTS TOWARD THE PROGRAM

Survey forms were developed by the author distributed to all students and parents/guardians of participating students. Items included in the surveys yielded information pertaining to the operation and perceived effectiveness of the program.

GOALS AND METHODOLOGY: The author developed student survey forms (Appendixes F & G) which contained statements to assess students general orientation toward the program, their reaction to participation and their perceptions of the effects of program participation. For each statement, students indicated their agreement or disagreement by marking appropriate responses on the survey form.

The primary level students survey form (grades 1 & 2, Appendix F) was orally administered by program teachers with the students responding by placing an "X" on the form to indicate their response. The response options included a happy face indicating that "YES" they agreed with the statement and a sad face indicating that "NO" they did not agree with the statement. The intermediate level survey form (grades 3-6, Appendix G) contained statements pertaining to the operation and perceived

effectiveness of the program. The intermediate level survey could be administered orally by the teacher or read by the students. All student responses were made on machine scorable answer sheets. The students indicated their agreement or disagreement to each statement by selecting their response from the five response options avaiable and bubbling in their response on the answer sheet.

An overall favorable response rate of 80% met the anticipated goals as selected by the author. While this figure was arbitrary, it represented a clear majority which would strongly indicate an overall favorable/positive skew. An 80% success rate would also limit the criticism of "insignificant" or "marginal" program impact.

The Parent Questionnaire (Appendix H) included demographic information such as the student's sex, ethnicity and grade in school, and statements pertaining to the operation and perceived effectiveness of the program. Again, an 80% favorable response rate was selected to satisfy the criteria for success.

EVALUATION OF INSERVICE BY PROJECT INSTRUCTIONAL STAFF

The project program indicated that inservice activities were to be provided for program teachers. It was anticipated that the author would be informed of all project related inservice activities prior to their occurrence. The perceived relevancy of those inservice presentations to the overall operation of the program and/or instructional activities were determined by

information gathered during interviews with program instuctional personnel. If information gained as a result of the initial interviews/observations by the author yielded a generalized need for a specific type of inservice, that information was shared with appropriate administrative personnel associated with the project and documented in Chapter V.

GOALS AND METHODOLOGY: Teachers were interviewed during the school year to determine whether they enjoyed the workshops and if they found them to be helpful in implementing the program. Questions were presented in open-ended form to assess the teachers perceptions of the inservice and their needs. As of this writing only one inservice activity has been scheduled. The Departments of Staff Development and Advanced Academic Programs are in the process of scheduling additional workshops at a date to be announced.

EVALUATION OF THE ADEQUACY OF FACILITIES AND AVAILABILITY OF MATERIALS FOR THE OPERATION OF THE PROGRAM

Interviews with instructional personnel and observations of instructional activities were conducted to obtain information pertaining to the adequacy of the facilities and materials. At least two (2) interview visits were made to each school site during the practicum process.

GOALS AND METHODOLOGY: In order to assess the adequacy of instructional facilities, interviews were conducted, by the author, with all program teachers and on-site visitations were made to all 10 program schools. As with the aforementioned

category, open-ended questions were used to assess the teachers perceptions of the instructional facilities and availability of materials, equipment and supplies. If 6 out of the 10 teachers responded favorably to the above mentioned areas, the goal was accomplished. Concerns reported by the teachers, are addressed in Chapter V.

TERMINAL PERFORMANCE OBJECTIVES

The activities described in the "Anticipated Outcomes" section provided responses to the following general questions:

1. To what extent do program participants meet the criteria established for admission into the program?

2. To what extent does school level programs comply with the parameters of instructional activities specified in the project document?

3. To what extent do participating students evidence gains in the higher cognitive thinking skills specified in the project document?

4. What are the general attitudes of students and parents toward this program?

5. What inservice has been presented to project instructional staff and what is their evaluation of these inservices?

6. How adequate are the program facilities and the quantity and quality of materials available for instruction?

EVALUATION INSTRUMENTS
(Refer to Appendix I for protocols)

THE DEVELOPING COGNITIVE ABILITIES TEST (DCAT)

The DCAT is a measure of characteristics and ability that contribute to academic performance. Unlike traditional mental ability tests, the DCAT is based on the assumption that instruction can alter and improve those characteristics and abilities. The DCAT has been designed to measure two dimensions of aptitude. The first, and more traditional, dimension includes verbal, quantitative, and spatial abilities. The second dimension provides information based on five out of six cognitive classes of Bloom's taxonomy namely; Knowledge, Comprehension, Application, Analysis, and Synthesis. Bloom's level of "Evaluation" was not included in the cognitive dimension of the DCAT. Previous attempts to assess evaluation found that it was not amenable to an objective item format. The requirements for items that adequately assess the level of evaluation were deemed overwhelming for the DCAT format and time limit (Refer to Kropp & Stoker ,1966).

The DCAT was developed to assess specific abilities that are required for the learning tasks in various school subjects. These abilities are not regarded as static traits, but as traits that are sensitive to instruction. The DCAT is designed to measure those cognitive abilities that can be altered through instruction.

RELIABILITY

Reliability estimates were calculated for each content area at every level of the DCAT. The Kuder-Richardson Formula 20 (KR20), a measure of the internal consistency of a test, was used to estimate the test reliability of the DCAT.

VALIDITY

The basic assumptions on which the DCAT is founded are that aptitude is a non-stable trait which can be developed over a period of time, and that instruction can influence the development of specific abilities. The data reported to describe the empirical characteristics of the DCAT are based upon student samples of approximately 500 students for each data point.

ROSS TEST OF HIGHER COGNITIVE PROCESSES(ROSS)

The Ross test was developed between September 1974 and June 1976, following a review by the authors of existing tests which revealed that no comprehensive instruments for assessing the higher-level thinking skills of students in the intermediate grades were available at that time. The 105 items which comprise the Ross Test have been designed to access higher-level thinking skills of both gifted and non-gifted students in grades four through six. These are "analysis," "synthesis," and "evaluation," as defined by Benjamin S. Bloom in his book, Taxonomy of Educational Objectives, Handbook I: Cognitive Domain.

RELIABILITY

Reliability procedures were performed for the Ross Test utilizing test-retest and split-half procedures. The reliability coefficients obtained were statistically significant beyond the 0.001 level of confidence.

Internal consistency of the Ross Test was determined by split-half reliability procedures. A Pearson product-moment correlation coefficient was calculated from students' scores on the odd-and even-numbered test items, and this statistic was then adjusted by applying the Spearman-Brown prophecy formula. The resulting split-half reliability coefficient was .92, significant at better than the .001 level of confidence.

VALIDITY

Construct validity for the Ross Test was determined by correlation of total score with students' chronological ages, age differentiation, group (gifted vs. non-gifted) differentiation, and correlation with an intelligence test.

The work of Piaget and others has indicated that children are able to comprehend and interrelate increasingly complex ideas as they progress in chronological age. A study of the relationship of chronological age to performance on the Ross Test suggests that the development of the higher-level thinking abilities of analysis, synthesis, and evaluation is positively related to increases in chronological age. The correlation between the Ross Test total score and chronological age (n=339) was found to be r=.67, indicating a highly significant relationship.

CHAPTER IV

SOLUTION STRATEGY

The most effective solution to re-fund the MASE program was to produce evidence that overwhelmingly demonstrated that the program has merit, was supported by parents and students, and was effective in increasing higher level cognitive skills in the participating students. If the data gleaned from this evaluation could document that the program had a positive impact in the aforementioned areas, the program could have an excellent chance of being re-funded. Any special program with parental support has a good chance of being renewed; however, if it can be also demonstrated that in addition to parent support the program is accomplishing its intended goals and objectives, a very strong case for re-funding will be presented.

SOLUTION ACTION AND RATIONALE

The following activities describe the rationale and solution strategies that were employed for assessing each of the Terminal Performance Objective items.

TO WHAT EXTENT DO PROGRAM PARTICIPANTS MEET THE CRITERIA ESTABLISHED FOR ADMISSION INTO THE PROGRAM?

Because the criteria (Appendix C) indicate that for most students, with the exception of first-grade, [first-grade students were required to obtain a raw score of 55 or higher on the Cooperative Preschool Inventory (CPI)], a stanine score of

7,8, or 9 on the Stanford Achievement Test was used for eligibility, the author developed Participants Roster included a category for scores from the standardized achievement tests. The rosters were completed by project teachers at each school site and forwarded to the author. Examination of the completed rosters allowed a determination of the extent to which participating students were identified on the basis of the eligibility criteria. It should be remembered that the student selection guidelines also allowed principals the discretion of selecting additional students for MASE program participation with lower test scores if the application of the test score criteria result in the identification of too few students. If a significant number of students were selected with lower test scores, a separate analysis of these students placed on lower test scores was considered. However, if this number (over 20% of participating students) is not deemed significant by the author, a separate analysis will not be performed because it would appear that inclusion of these data into the report will not appreciably prejudice or greatly alter the results. If it is found that a significant number of Gifted eligible students are participating in the program at a particular school site, a separate analysis, [e.g. Analysis of Covariance (ANCOVA)] of those selected students may be performed.

ANCOVA is sometimes viewed as a way to make interpretable the results from a pretest-posttest control group study which shows an unfortunate result: pretest scores of the two groups are different. To permit conclusions to be made from the posttest

scores, pretest scores should be the same. ANCOVA can statistically adjust posttest scores to remove the effects of this initial difference. Unfortunately, the procedure may under- or overcorrect, and its use invloves assumptions about various features of the data that frequently cannot be met (e.g. Could the ants beat the elephants if they were the same size?). Most statistical tests are, of course, based on assumptions; but violation of these alters their accuracy very little. ANCOVA is an exception and results may be considerably misleading if improperly used (Elashoff, 1969). This procedure was only considered if it was found that significant numbers (20% or more) of Gifted student's were participating in the MASE program. However, it was reported via student rosters that only 6% of the participating students in the MASE program were gifted. Ergo, the application of the aforementioned procedure was not employed. It was not initially anticipated that a significant number of Gifted students would be identified as program participants.

TO WHAT EXTENT DO SCHOOL LEVEL PROGRAMS COMPLY WITH THE PARAMETERS OF INSTRUCTIONAL ACTIVITIES SPECIFIED IN THE PROJECT DOCUMENT?

The MASE program proposal specified that participating students were to attend the MASE labs three to five times per week and were to receive a total weekly exposure to the program of between 180-300 minutes. A schedule of MASE instructional sessions was obtained from each project school. Provisions of this information allowed a determination of such things as the length of instructional sessions, the number of days per week that students participated in MASE instructional activities and the

size of instructional groupings. This information was compared to the duration and schedule specifications as stated in the program proposal.

TO WHAT EXTENT DO PARTICIPATING STUDENTS EVIDENCE GAINS IN THE HIGHER COGNITIVE THINKING SKILLS SPECIFIED IN THE PROJECT DOCUMENT?

The project objectives as described in the program proposal indicated that instructional activities were to be directed at the enhancement of higher level cognitive skills. The project proposal also stated that innovative materials such as the Structure of Intellect (SOI) and Developing Math Processes (DMP) would be used to make the MASE lab a challenging experience.

The ROSS and DCAT were selected as assessment instruments because of their relationship to the higher level cognitive thinking skills as required by the project proposal for the MASE curriculum. To assure that specific goals and objectives were coincidental with needs and learning styles of the academically advanced students, the strategies and approaches used in Pupil/ Teacher planning were based on Bloom's Taxonomy of the Cognitive Domain. Bloom's Taxonomy, which categorizes types of learning in the hierarchical order of Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation, were the bases for developing appropriate teaching strategies and approaches as they related to Cognitive learning. Pre and posttests were administered to all participating MASE students by school personnel. Each grade level was analyzed in order to determine the extent of student improvement in the area of cognitive skill

development. While this testing involved only the "experimental" group, without a control group, strict quantification of the results were not expected. However, if there was evidence to show that appreciable gains have been made in higher level thinking skills, inference can be made that the MASE program was responsible for these increases. The data will be used to demonstrate that as a result of the MASE program, students evidenced a "trend" toward increasing higher level cognitive skills and problem solving abilities which supports program renewal.

WHAT ARE THE GENERAL ATTITUDES OF STUDENTS AND PARENTS TOWARD THIS PROGRAM?

Author developed questionnaires were distributed by the project teachers to all student participants and parents/guardians of participating students from each of the 10 lab schools. Items included in the surveys yielded information pertaining to the operation and perceived effectiveness of the program. The questionnaire contained statements assessing parents understanding of the program and their perceptions regarding the project's design, effects and integration with the school's regular education program. For each statement the parents indicated the extent of their agreement or disagreement on a five point Likert (author developed) scale. Survey forms for the student's contained statements to assess students general orientation toward the program, their reaction to participation and their perception of the effects of program participation. For each statement, students indicated their agreement of

disagreement by marking appropriate responses on the survey form.

WHAT INSERVICE HAS BEEN PRESENTED TO PROJECT INSTRUCTIONAL STAFF AND WHAT IS THEIR EVALUATION OF THIS INSERVICE?

The perceived relevance of any inservice presentations to the overall operation of the project and/or instructional activities was determined through the analysis of information gathered during interviews with program teachers by the author. The author was apprised of all inservice activities and a schedule was posted for all interested personnel. Interviews with program instructional personnel, by the author, addressed the perceived relevancy of inservice presentations to the overall operation of the program and/or provision of instruction.

HOW ADEQUATE ARE THE PROGRAM FACILITIES AND THE QUANTITY AND QUALITY OF MATERIALS AVAILABLE FOR INSTRUCTION?

In order to assess the adequacy of instructional facilities, interviews were conducted, by the author, with all 10 project teachers and on-site visitations made to all project schools. At least one visit was made to each project school during the implementation phase of the practicum for the purpose of teacher interviews. Information was obtained to determine the availability of materials, equipment and supplies necessary to support the provision of MASE instruction. Information was also gathered during interviews with project teachers to obtain their perceptions regarding the appropriateness of instructional materials to support the achievement of project objectives. While student gains on the pre and posttests were a major goal for the program, other variables were also considered. If

parents, students, and/or teachers responded favorably to the program in regard to students' interest, motivation, enthusiasm, and general felicity, these perceptions were incorporated in Chapter V and appropriately discussed. Many times a programs merit lies not in the academic gains demonstrated by students, but, in the overall positive impact it had on teachers, parents, and students alike. All survey data were reported in percentages and all test results were reported in median percentiles.

Overall program success was determined by a number of variables and not exclusive of test scores. If survey questionnaires and interviews indicated that a majority of parents, students, and teachers gave "high marks" to the program, the author's goals and objectives were realized. Although program success was not exclusively based upon an increase in test scores from the ROSS and DCAT, any substantial gains evidenced from these instruments gave additional support to program efficacy.

TIME LINES:

Pretesting was performed in March, 1984 using the ROSS and DCAT. Participant rosters were sent to the schools in April, 1984 in order to glean the required student information. Interviews with teachers was performed, by the author, on a "time available" basis through-out the year. During the course of the practicum study at least one visit was made to all MASE schools and all MASE teachers were interviewed by the author on a time available basis. The interviews were conducted during the implementation stage of the practicum. Posttesting was performed in December, 1984 with the analysis of data completed in January, 1985. The final practicum report was submitted at the end of January, 1985. The projected time lines and actual adherence to same was largely dependent on variables such as: testing schedule, distribution and return of surveys, inservice schedule, analyzing data, availability of teachers for interviews, author's schedule, etc.

In general, major obstacles in adhering to the proposed implementation schedule were not encountered. It should be noted that replication of this practicum could be facilitated, without major difficulty, if the 9-10 month implementation stage is followed and test materials ordered on a timely basis. Frequent contact with the program teachers is critical in order to ensure prompt administration of the pre and posttests and to provide periodic encouragement and feedback to them. Telephone contacts were made to teachers whenever possible to keep them informed of the status of the evaluation and ask if they had any questions regarding the testing schedule or any aspect of the evaluation

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phase. This interaction helped to expedite and facilitate the evaluation process and also gave program teachers a "feeling" of involvement which resulted in optimal cooperation and interest with them.

Chapter V

Results, Conclusions and Recommendations

Results

Extent to Which program Participants Met the Criteria Established for Admission into the program

The program proposal specified that at each of the nine sites providing MASE through the services of a full-time teacher, 75-110 student participants would be identified and at the half-time MASE site, 35-55 students would receive MASE services. To determine the number of students being served at each program school, the author developed a participant roster that was completed by the MASE teacher at each program site. Based on the information included in the rosters, the specified number of students received MASE services at two of the ten program schools (see Table I). At one MASE site one less student than the required minimum number was included on their roster and at the eight other sites four to thirty three fewer than the minimum number of students were reported on their rosters. These schools had relatively small student enrollments from which to select MASE participants from and several schools experienced declining enrollments, from earlier projections, due to normal student attrition patterns and population shifts. One school recorded an increase in population due to the inclusion of a special "Fine Arts" program which drew students from other schools. These program students were not eligible to participate in the MASE

TABLE I

School and Program Enrollment at Relevant Grade Levels

School	Grade Levels*	Student membership in grades specified as of 3-3-84	MASE program enrollment as of 12-7-84
001	1-4	432	52
002	1-6	790	53
003	1-2	249	63
004	3-6	465	80
005	1-6	610	80
006(1/2)	1-6	285	33
007	5-6	272	42
008	1-3	531	74
009	4-6	581	71
010	3-6	298	54

*The grade levels specified do not include Kindergarten since these students did not participate in the MASE program.

project. MASE enrollment ranged from 7% to 25% of the schools' population (excluding Kindergarten).

The total number of participants reported on the rosters was 642, of which 40 (6%) exited the program during the year. Eligibility scores were provided for 504 (79%) of these participants. Of the 504 students for whom eligibility scores were reported, the scores for 207 students (41%) met the test score eligibility criteria provided in the Guidelines for the Selection of Students (see Appendix C); and 297 (59%) did not meet these criteria. It should be remembered that the student selection guidelines also allowed principals the discretion of selecting additional students for MASE program participation with lower test scores if the application of the test score criteria resulted in the identification of too few students.

Adequacy of Instructional Facilities

In order to assess the adequacy of instructional facilities, interviews were conducted with program teachers and on site visitations made at selected program schools. The results of these activities revealed that, in general, adequate program facilities were provided at all program sites. Two project teachers did, however, provide negative comments regarding the adequacy of their instructional facilities. One teacher reported that her project facilities were adequate except that the room was not air-conditioned and the other teacher indicated that she did not have sufficient storage space.

Availability of Materials, Equipment and Supplies

Information was obtained during interviews with selected program teachers to determine the availability of materials, equipment and supplies necessary to support the provision of MASE instruction. Overall, the teachers at the selected school sites indicated that they had an adequate supply of instructional materials, equipment and supplies. Several teachers did indicate, however, that they needed money to be allocated for the replacement or purchase of new materials, equipment and supplies.

Extent to Which School Level Projects Complied with the Parameters of Instructional Activities

The MASE program proposal specified that participating students were to attend the MASE labs three to five times per week and were to receive a total weekly exposure to the program of between 180-300 minutes. The total number of instructional groups for all ten MASE schools was 61. Thirty-four of the groups (56%) met between three and five days per week. At three project schools (18 instructional groups) MASE students participated in the program only one day per week. At one other school six of eight groups attended MASE classes two days per week. The vast majority (89%) of MASE classes provided the required minutes per week exposure to the project. Only seven of the sixty-one instructional groups did not meet for the minimum of 180 minutes per week and no group met for more than 300 minutes per week.

Extent to Which Participating Students Evidenced Gains in the Higher Cognitive Thinking Skills

To determine the extent to which student participants evidenced gains in higher level cognitive thinking skills, the DCAT and

Ross were administered on a pretest (March, 1984) and posttest (December, 1984) basis. Both the pretest and the posttest administration and scoring of the prestest were completed by program teachers. The raw scores for each school and grade level were recorded on test rosters and communicated to the author for transformation and analysis.

The DCAT level 2 was used to assess the impact of MASE on the verbal, quantitative, and spatial abilities of second grade students. Unlike the higher levels of the DCAT, Bloom's cognitive dimensions (knowledge, comprehension, application, analysis, and synthesis) were not assessed because it was believed by the test's publisher that a group-administered testing format could not measure these categories with sufficient precision in younger children.

The DCAT level 3, which was used to assess third grade students, was designed to assess the content area dimensions (verbal, quantitative, and spatial) as well as five of the six dimensions of Bloom's cognitive taxonomy. Bloom's "evaluation" dimension was not included since the requirements for items that adequately assess a student's ability to evaluate were found, by the test's publisher, to be incompatible with the DCAT format and time limits.

The Ross test was used to assess MASE impact on fourth, fifth, and sixth grade students and is comprised of 105 items designed to assess higher-level thinking skills of students in terms of all six of Bloom's taxonomic dimensions.

Results of the DCAT testing for grades 1-3 are presented in Table II in terms of the major dimensions of the test (verbal, quantitative, and spatial) as well as in terms of total scores. Results of the Ross testing (grades four through six) are presented in Tables III through V. For purposes of reporting, the Ross subtests are grouped according to the appropriate higher-level cognitive skills of analysis, synthesis, and evaluation. Median raw scores and percentiles for pretests and posttests are presented by grade level.

Prior to discussing the results of this testing, it should be noted that both fall and spring norms were available and were used in transforming pretest scores and posttest scores (respectively) into percentile scores. Although the pretests and posttests were administered March and December, 1984, respectively, the analysis appears valid since the tests were standardized and normed on eight to nine months of program exposure time. An increase on percentile (from pre to post-test) for a particular subtest can, thus, be interpreted as a greater (than expected) increase in skill: i.e., can be interpreted as a growth in cognitive skill beyond what would be expected had these students not been exposed to MASE.

For grades 1 and 2 the posttest percentiles are considerably above the level of the corresponding pretest precentiles for all three content areas as well as the total score. While the posttest precentiles for grade 3 students (see table II) were also above the level of the corresponding pretest percentiles in

TABLE II

DCAT level 2 & 3 Pretest/Posttest Scores

GRADE 1
DCAT Level 2
(n=80)

	Pretest		Posttest	
	Median raw score	Median percentile	Median raw score	Median percentile
Verbal	26	49	32	86
Spatial	16	60	23	90
Quantitative	13	50	19	92
Total	54	44	73	95

GRADE 2
DCAT Level 2
(n=116)

Verbal	30	59	33	96
Spatial	20	60	23	86
Quantitative	17	74	20	89
Total	70	68	75	96

GRADE 3
DCAT Level 3
(n=92)

Verbal	32	81	36	76
Spatial	12	70	18	86
Quantitative	7	65	10	84
Total	49	80	63	83

verbal post-test percentile was slightly lower than that of the prestest, although the raw scores did show an increase over the pretest. the raw scores did show an increase over the pretest. For the Ross Test (grades 4,5,& 6), percentile gains in total scores were noted for all grade levels, indicating that increases in higher cognitive abilities were generally realized. However, at grade five, posttest percentiles for one "Analysis" subtest and both "Evaluation" subtests were lower than corresponding pretest percentiles. For grade six, this pattern was also noted in the case of one "Synthesis" subtest. It is difficult to reasonably account for these decreases in median percentiles except to note that there appeared to be inconsistencies in some of the normative data, making the resultant percentiles subject to question.

Attitudes of Primary Level (Grades 1-2) Students Toward the Program

Survey forms were completed by approximately 97% of the first and second grade students participating in the program. The survey form contained ten statements to assess students' general orientation toward the program, their reaction to participation and their perception of the effects of program participation. For each statement, students indicated their agreement or disagreement by marking appropriate responses on the survey form. Responses to this survey are described below and presented in Table VI. For clarity of presentation, items are grouped under three headings describing various program dimensions. Table VI contains the percentages of students responding to the options

TABLE III

Ross Pretest/Posttest Scores

GRADE 4
(n=110)

	Pretest		Posttest	
	Median raw score	Median percentile	Median raw score	Median percentile
Analysis				
Analogies	7	76	9	93
Missing Premises	2	40	3	47
Analysis of Rel. & Irrelevant Info.	5	53	6	65
Synthesis				
Abstract Relations	8	74	11	78
Sequential Synthesis	2	58	4	81
Analysis of Attributes	8	53	11	88
Evaluation				
Deductive Reasoning	11	75	13	81
Questioning Strategies	7	85	8	86
TOTAL	48	69	64	89

TABLE IV

Ross Pretest/Posttest Scores

GRADE 5
(n=124)

	Pretest		Posttest	
	Median raw score	Median percentile	Median raw score	Median percentile
Analysis				
Analogies	8	72	10	84
Missing Premises	3	71	4	62
Analysis of Rel. & Irrelevant Info.	5	41	7	68
Synthesis				
Abstract Relations	10	69	12	72
Analysis of Attributes	10	65	12	81
Evaluation				
Deductive Reasoning	12	74	13	65
Questioning Strategies	8	84	8	76
TOTAL	59	72	70	81

TABLE V

Ross Pretest/Posttest Scores

GRADE 6
(n=120)

	Pretest		Posttest	
	Median raw score	Median percentile	Median raw score	Median percentile
Analysis				
Analogies	9	76	11	85
Missing Premesis	4	63	5	67
Analysis of Rel. & Irrelevant Info.	8	81	10	81
Synthesis				
Abstract Relations	12	73	13	68
Sequential Synthesis	4	74	7	90
Analysis of Attributes	9	54	13	89
Evaluation				
Deductive Reasoning	13	65	15	79
Questioning Strategies	8	81	10	81
TOTAL	64	72	78	83

TABLE VI

Student Survey Responses - Primary Form (Grades 1-2)

(n=210)

	percent responding	
General Orientation Toward MASE Project	YES	NO
I like school.	93	7
Most of the students in my MASE class are friendly with each other.	93	7
I like my MASE class.	99	1
I wish I could spend more time in my MASE class.	98	2
I want to be in MASE next year.	96	4
I am as smart as the other students in my MASE class.	93	7
Reaction to Participation in the MASE Project		
The work I do in my MASE class makes me think.	99	1
The things I do in my MASE class are interesting.	99	1
Perceived Effects of MASE Project Participation		
I try hard in my MASE class.	100	0
I learn a lot in my MASE class.	100	0

for each item.

General orientation toward the program. The primary level questionnaire included six items within this cluster. All six items received a favorable rating with at least 93% of the students providing a positive response for each item. A high percentage of students indicated that they liked school (93%) and that the students in their MASE class were friendly with each other (93%). Almost all the primary students (99%) reported that they liked their MASE class. Most students indicated that they wished they could spend more time in their MASE class (98%), wanted to participate in the program next year (96%), and felt they were as smart as the other students in their MASE class (93%).

Reaction to participation in the program. On the primary questionnaire two items were included in this cluster. Almost all students felt that the work they do in their MASE class made them think (99%) and that what they did in their MASE class was interesting (99%).

Perceived effects of program participation. Both items in this cluster received total agreement. All students (100%) indicated that they tried hard in their MASE class and felt that they had learned a lot in MASE as a result of their participation.

Attitudes of Intermediate Level (Grades 3-6) Students Toward the program

Survey forms were completed by approximately 80% of the third through sixth grade students participating in the program. The survey form contained 18 statements to assess students' general

orientation toward the program, their reaction to participation and their perception of the effects of program participation. For each statement the students indicated the extent of their agreement on a five point scale.

Responses to this survey are described below and presented in Table VII. For clarity of presentation, items are grouped under three headings describing various program dimensions. Table VII contains the percentages of students responding to each of the five response options for each item.

General orientation toward the program. On the intermediate student questionnaire, six items were included within this cluster. High percentages of (95%) students indicated that they felt proud to be selected for participation in MASE, were lucky to attend MASE (92%), and were happy to come to their MASE class (92%). Moderate percentages of students felt that the students in their MASE class were friendly with each other (70%) or that they were as smart as the other students in their MASE class (77%). The vast majority of respondents (90%) indicated that they would like to participate in the MASE program during the next school year.

Reaction to participation in the program. Six items were grouped within this cluster. A large percentage (83%) of students disagreed with the statement indicating that the work in their MASE class was too difficult. Relatively high percentages of students indicated that what they did in their MASE class was interesting (92%), challenging (82%), and that they liked the way

their MASE class was run (86%). To obtain an indication of the quality of MASE facilities, students were presented with a statement regarding the condition of the furniture in their MASE class. The condition of the furniture was reported as good by 74% of the students and the majority of the students (90%) felt that their parents were satisfied with the work they did in their MASE class.

Perceived effects of program participation. A total of six items were included in this cluster. high percentages of students felt that their participation in the MASE program helped them to learn about many new things (96%), helped them to develop better study habits (81%), increased their motivation to learn (86%), and helped them to develop their self confidence (82%). Almost all students (95%) reported that their MASE teacher made them feel like he/she wanted them to learn. A mixed response (64% agree, 28% disagreed) was provided to a statement indicating that MASE students made up the work they missed in their regular classes.

Attitudes of Parents Toward the Program

Questionnaires were completed by approximately 58% of the parents. The questionnaire contained 21 statements to assess parents' understanding of the program and their perceptions regarding the program's design, effects and integration with the school's regular education program. For each statement the parents indicated the extent of their agreement or disagreement on a five point scale.

TABLE VII
Student Survey Responses
Intermediate Form (Grades 3-6)
(n=325)

	percent responding				
	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
General Orientation Toward the MASE Project					
I am proud of being selected for participation in the MASE program.	01	01	03	12	83
I am lucky to get to attend MASE.	02	01	05	26	66
Most days I'm happy to come to my MASE class.	01	04	03	20	72
Most of the students in my MASE class are friendly with each other.	04	05	21	39	31
I am as smart as other students in my MASE class.	01	03	19	22	55
I would like to be in MASE during the next school year.	02	01	11	05	85
Reaction to participation in the MASE Project					
The work I do in my MASE class is too difficult	51	32	12	03	02
In my MASE class we do many things that interest me.	01	02	05	27	65
The work that I do in my MASE class is challenging.	03	03	12	24	58
I like the way my MASE classes are run.	02	02	10	30	56
The furniture in my MASE class is in good condition.	05	05	16	32	42
My parents are satisfied with the work I do in my MASE class.	01	00	09	23	67
Perceived Effects of MASE Project Participation					
My participation in the MASE program has helped me to develop better study habits.	00	00	03	21	75
My participation in the MASE program has helped me to develop better study habits.	03	03	12	29	52
Participation in the MASE program has increased my motivation to learn.	01	03	10	26	60
Participation in the MASE program has helped me to develop my self-confidence.	02	03	12	28	54
My MASE teacher makes me feel like he/she wants me to learn.	01	00	03	19	76
I make up the work that I miss in my regular class while attending MASE.	18	10	09	28	36

Note: Row percent scores may not total 100 percent due to rounding error.

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Responses to the survey are described on the following page and presented in Table VIII. For clarity of presentation, items are grouped under four heading describing various program dimensions. Table VIII contains the percentages of parents responding to each of the five options for each item.

Understanding/communication. A total of four items were included in this cluster. Of the four clusters included in the parent questionnaire the lowest percentage of agreement was provided for items within this cluster. Within this cluster, moderate percentages of agreement were given to the adequacy of orientation to the MASE program (75%) and the clarity by which the criteria for admission to the program was explained (75%). The lowest parent agreement for all questionnaire items was provided for the adequacy which parents were informed of their child's progress in the MASE program (70%). A relatively high percentage of respondents (88%), however, indicated that the MASE teachers were readily available if a conference was requested.

Program design and procedures. Ten items were included in the questionnaire to enable parents to express their opinions regarding the program design and procedures. High percentages of agreement (at least 80%) were provided for nine of the ten items in this cluster. The lowest rating (75%) within this cluster was given to the adequacy of the time per week that children attended the program. A substantial percentage of respondents indicated that the criteria used to qualify for the MASE program seemed reasonable (87%), that the instructional facilities were adequate (81%), and instructional activities appropriate, given

TABLE VIII
Parent Questionnaire Responses
n=351

	percent responding				
	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
Understanding/Communication					
School personnel adequately oriented me to the MASE program.	04	14	07	46	29
The criteria my child had to meet to qualify for the MASE program were clearly explained to me.	04	12	10	45	30
The MASE program teacher keeps me adequately informed of my child's progress.	06	16	08	42	28
The MASE teacher is readily available if I request a conference.	00	01	11	37	51
Project Design and Procedures					
The criteria my child had to meet to qualify for the MASE program seem reasonable.	01	01	11	50	37
The MASE program's instructional facilities are adequate.	00	04	14	55	26
My child is exposed to instructional activities of an appropriate nature give the goals of the program.	02	01	09	50	38
The amount of time per week that my child spends in the MASE program seems to be sufficient.	03	10	12	54	21
My child receives a sufficient amount of individualized attention in the MASE program.	01	01	19	39	41
My child needs specialized instruction such as that offered in the MASE program to maximize his/her potential.	01	04	09	30	57
I am satisfied with the MASE instructional procedures.	01	01	67	43	48
The MASE teacher at my child's school is sufficiently qualified to teach in the MASE program.	01	00	10	36	53
My child is able to "keep up" with lessons in the MASE program.	01	00	05	42	52
I would like to see my child continue in the MASE program.	01	00	02	17	80

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Note: Row percent scores may not total 100 percent due to rounding error.

TABLE VIII
Parent Questionnaire Responses
n=351

	percent responding				
	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
Perceived Effects of Project Participation					
My child enjoys being in the MASE program.	01	00	01	16	82
I can see positive changes in my child at home as a result of his/her participation in the MASE program.	01	04	16	35	44
MASE Project/Regular Program Integration					
My child's regular class teachers have a favorable opinion of the MASE Program.	01	00	24	41	33
Cooperation between my child's MASE and regular class teachers seems to be good.	00	01	13	48	38
Regular class teachers expect my child to make up work that was missed while he/she was receiving MASE instruction.	02	08	21	40	28
I feel that my child should make up work that was missed while he/she was receiving MASE instruction.	03	11	10	35	41
My child is able to "keep up" with lessons in the regular class.	01	01	02	38	58

Note: Row percent scores may not total 100 percent due to rounding error.

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the goals of the program (88%). The vast majority of parents felt that their child needed specialized instruction in order to maximize their potential (87%), were satisfied with the amount of individualized attention their child received (80%), and indicated their satisfaction with the instructional procedures used in the MASE program (91%). Highly favorable parental responses were provided for the qualifications of the MASE teachers (89%), the ability of their child to "keep up" with lessons in the MASE program (94%), and the desire for their child to continue to participate in the MASE program (97%).

Perceived effects of program participation. Only two statements were included to assess the perceived effects of program participation. Almost all parents (98%) felt that their child enjoyed participating in the MASE program and many (79%) indicated they saw positive changes in their child as a result of their child's participation in MASE.

MASE program/regular Program Integration. Five items were combined to form this cluster. None of the responding parents felt that regular classroom teachers had unfavorable opinions of the MASE program. A substantial percentage of respondents felt that cooperation between the MASE teachers and regular teachers was good (86%). A majority of parents (68%) indicated that their child's regular classroom teacher expected their child to make up the work that was missed as a result of their attendance in MASE. A somewhat larger percentage of parents (76%) felt that their child should make up the work that they miss in their regular classes while receiving MASE instruction. Virtually all

parents (96%) felt that their child was able to keep up with their lessons in their regular classes. Over half of the respondents (57%) indicated that they had visted their child's MASE program during the school year.

Relevancy of Inservice

On October 17, 1984 MASE teachers were provided with a one-day inservice workshop jointly presented by the Department of Advanced Academic Programs and the University of Miami Department of Education. The workshop focused on recent brain research, implications for teaching thinking, and included a display of educational materials currently available for the facilitation of teaching higher level thinking skills. All ten MASE workshop participants reported that they enjoyed the workshop and found it helpful for planning and implementing MASE instructional activities. During subsequent interviews conducted by the author all teachers were presented with an open-ended question about their inservice needs. Eight of the ten teachers indicated a desire to meet together with the other program teachers to discuss the operation of the program and to share ideas.

Conclusions

The MASE program was directed at providing academically above-average students with enrichment activities to enhance their development of critical thinking and problem-solving

skills. The results of this evaluation indicate that most program activities occurred as specified in the program proposal. An exception to this generalization occurred with respect to a smaller than specified number of students served at some of the (smaller) schools and the number of minutes per week for program exposure. The materials, supplies, and facilities to provide MASE instruction were judged adequate by the majority of program teachers. In communicating with program teachers throughout the year, no comments regarding gross project inadequacies were noted. These teachers did, however, express a desire for continued opportunities to interact with one another for the purpose of sharing information regarding instructional resources and approaches. The vast majority of MASE students participated in the required number of weekly minutes of MASE instruction, although only 56% of the instructional groups met three to five times per week as specified in the project proposal.

Most program students reported positive feelings about the MASE program, the work they did in the MASE class, and the effects of their participation. Parents of participating students provided relatively low ratings for the adequacy of orientation to the program and the adequacy with which they were informed of their child's progress in the program. Parents were supportive of the program's design and procedures and the vast majority indicated a desire for their children to continue to participate. The majority of parents felt that the program had positive effects on their children and that integration between the MASE program and the regular education program was good.

The DCAT and Ross pre and posttest results were used to determine the extent to which participating students evidenced gains in higher level cognitive thinking skills. Overall test data indicate that increases in higher level cognitive skills were evidenced by participating students across all grade levels.

Program teachers indicated that inservice which had been provided at the beginning of the 1984-85 school year was helpful for planning and implementing MASE instructional activities. The vast majority of the teachers felt that these meetings were beneficial and indicated a desire for additional opportunities to meet as a group.

Recommendations

As a result of these generally favorable findings, the following recommendations are made:

1. Program schools with relatively small students enrollments from which to select participants should be permitted to serve fewer students than program schools with greater numbers of students.

2. An effort should be made to more adequately orient parents to the project, to more clearly explain the admission criteria and to keep parents more adequately informed of their child's progress in the program.

3. Either the requirement that MASE students meet for a specified number of days per week should be adhered to more closely or the requirement should be eliminated.

4. Program instructional staff should be provided with continued inservice training related to the operation of the program and instructional activities. A survey of their

needs should be made prior to the actual provision of inservice training.

5. Pre and posttesting should be performed earlier in the school year with posttesting administered prior to the end of school in June. Although there is no evidence to support that this schedule of testing would yield significantly different results, it would be of interest to determine what effects, if any, the recommended testing schedule would have on student scores in comparison to the schedule implemented by the author.

Dissemination

(a) In an attempt to optimally impact the MASE program county wide, this practicum report will be presented to the Director of Advanced Academic Programs, Dade County Schools, for perusal and reaction.

(b) Upon approval from the above mentioned Director, this practicum report will be distributed to all the schools and teachers participating in the MASE project.

(c) This practicum report will be forwarded to the Florida Educational Research Association (FERA) and the American Educational Research Association (AERA) for consideration for presentation at their respective, 1985-86, annual conferences.

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APPENDIX A

Ethnic Distribution Of Students According To Area:

North Area

Total number of students: 56,943

Black - 20,251
White - 19,359
Hispanic - 16,745
Asian - 575
Indian - 16

North Central

Total - 56,884

Black - 32,345
Hispanic - 19,677
White - 4,623
Asian - 228
Indian - 12

South Central

Total - 55,276

Hispanic - 37,258
White - 12,522
Black - 4,963
Asian - 510
Indian - 27

South

Total - 53,978

White - 27,039
Hispanic - 13,207
Black - 12,740
Asian - 963
Indian - 21

Total Dade County School - 223,081

39% Hispanic
32% Black
28% White
1% other

Guidelines for Contracting and Managing External Research/Evaluation Services

APPENDIX B

The following guidelines have been prepared by the Office of Educational Accountability (OEA) to assist the District in contracting and managing external evaluation or research services. These guidelines are primarily technical in nature and are not intended to supercede existing administrative guidelines or restrictions pertinent to such contracting. Copies of these guidelines should be attached to all requests for proposals which are sent to potential contractors.

The purpose of generating these guidelines is to facilitate the clear communication of expectations between DCPS and external contractors, such that the products generated meet the needs of DCPS to the greatest extent possible. Where relevant, guidelines listed below indicate what assistance DCPS should provide the contractor to support performance in those areas specific to each guideline.

Section I of the guidelines describes the content which should be included in proposals submitted to DCPS by potential contractors. Section II of the guidelines contains a description of procedures which are recommended for managing externally contracted evaluation or research services. Finally, the implications of these guidelines, uniquely applicable to the contractor, the Dade County Public Schools program which is to be evaluated and the DCPS-OEA which manages the contractor's performance of the evaluation are summarized in Section III (page 6). Section III also lists responsibilities pertinent to the process of developing requests for proposals (RFPs) and selecting the contractor, not previously covered in the guidelines.

I. Guidelines for Proposals or Bids from External Contractors.
Proposals or bids received from potential external contractors should, at a minimum, contain the following information:

1. design of the evaluation/research. The contractor should specify the design to be employed in the conduct of the study.

   In non-technical terms, the design describes "to whom", "what" and "when".

   to whom - the subjects, their selection and (if relevant) their assignment to "experimental" and "control" groups.

   The contractor should describe the number, method of selection and characteristics of the individuals (students, teachers, etc.) or records which are to provide the data for the study which is to be conducted. Additionally, the contractor should specify the proportion of the group of interest (the program population, for example) which the sample comprises and the distribution of the program sites in which the sample of respondents functions.

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The purpose of these requirements is to assure that: (1) appropriate individuals are sources of data for the evaluation, (2) the number and distribution of those who provide such data are sufficient to enable generalizing to the entire population of program-involved individuals and (3) the various physical locations or other situations in which program services are rendered are "covered".

what - the "treatment" (program to be evaluated) as well as the "no treatment", or alternative program to be applied to the control group (if such a group is employed).

when - the time frame/schedule within which the treatments are to be applied and the observations (or testings) are to occur.

example:

A pre-test, post-test, control group design will be used to assess the impact of the special program. A stratified (by school) random sample of 50 third-grade students will be selected from each of the 10 program schools. The sampling process will involve assigning unique three digit numbers to all third grade students within each school and selecting students via reference to a random number table. As students are selected, they will be alternately assigned to either the experimental (special program) class or the control (standard curriculum) class. At the beginning as well as the end of the school year, the experimental and control classes will be tested using the previously described instrument.

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Although it is not the intent of these guidelines to mandate specific designs, the contractor should attempt to utilize a design which indicates how the impact of the program which is evaluated compares with the impact of "no program" (or more realistically, alternative programs to which the students or other program participants would likely be exposed in the absence of the evaluated program). Where feasible, such designs should be described in terms of the models and terminology employed by Campbell and Stanley (1966)[1].

Finally, many funding agencies (outside DCPS) have requirements (or preferences) for certain design features that must be accommodated if the final research or evaluation product is to be acceptable. Such requirements may include (depending on the agency) pre-test, post-test designs involving

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[1](Experimental and Quasi-Experimental Designs for Research, Donald T. Campbell and Julian C. Stanley, Rand McNally Chicago, 1966).

testing of the student population both before and after exposure to the program or the use of both experimental and control groups, so as to have a reasonable basis for ascertaining the relative impact of the program being evaluated on the student group. In those cases where DCPS has been funded by some external source, DCPS will make available to the contractor any documentation descriptive of the funding agency's specifications for work to be done. The contractor will, in these cases, be responsible for incorporating, in the proposal, detailed explanations of how these requirements (for design, analysis, etc.) will be addressed.

2. description of tests/data collection methodology. Tests, surveys or other methods which are employed to collect data will be described. In those cases where it is anticipated that commercially or other already-developed instruments/procedures will be employed, the rationale for their selection should be described, including discussion of their relative reliability and validity as compared to other available instruments/procedures. In those cases where instruments/procedures are to be developed, the method to be employed in their development should be described briefly.[2]

3. organization and analysis of data. The contractor should specify analyses that will be performed on the data which are collected, including a description of the analytic procedures to be employed and the information which these analyses will provide. Where appropriate, indication should be given of analytic qualifications, or data subdivisions such as grade level, sex, ethnicity, or other variables of interest. The contractor should also indicate what resources will be used for programming or computer analysis of data (if required). Contractors who do not have their own computer analysis capability should specify the source of such services. This requirement helps to insure that these services will be available when needed and the contract can be completed on schedule and within budget.

   If the project or program which is evaluated is locally funded, the OEA may perform the analysis. Whether the project is locally or externally funded, the OEA reserves the right to approve both the design and analyses to be employed by the contractor.

4. production and scheduling of final or other reports. The contractor should specify the contents and schedule of production and presentation for both final and (if applicable) interim progress reports. The DCPS program office should specify the production quality of the report or reports (usually "camera-ready") and should make explicit any assistance that will be given to the contractor in the production of such reports (final typing, for example).

---

[2]Data Collection instruments and documented procedures specific to their application that are developed as part of a contract with DCPS shall become the property of DCPS.

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5. questions to be addressed by the research/evaluation. At the conclusion of the proposal, the contractor should list, in non-technical language, all major questions that the undertaking of the research/evaluation project will answer.

6. a schedule of major activities, illustrating the beginning, ending and duration of each activity. One appropriate way of responding to this is through the provision of a Gant, or bar, chart for each activity, beginning at the initiation of the activity described and ending at its termination (as illustrated).

Schedule of Activities

Project Activity	Jan.	Feb.	March	April	May	June
1. selection of subjects						
2. development of instruments						
3. testing						
4. analysis of data						
5. preparation of draft report						
6. DCPS review of draft						
7. preparation of final report						

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The preparation of such a schedule benefits the contractor in that it requires careful consideration concerning whether the necessary subcomponents of a project are "do-able" within the time and financial constraints of the agreement. It also benefits the contracting office in that it provides a series of checkpoints which can be used to determine if the evaluation is proceeding on schedule.

To support the contractor's provision of such a schedule, DCPS will provide the potential contractor any available documentation descriptive of the project to be evaluated and its schedule of implementation.

7. budget. The contractor shall, at a minimum, break down the total amount of the contract in terms of each of the following categories (where relevant):

   a. professional staff

   b. secretarial/clerical staff

   c. tests/materials

   d. travel/transportation

e. postage/telephone

f. sub-contracted services (including computer-time)

g. printing/duplication of reports and data collections forms.

8. description of contractor's staff. The experience of the contractor's organization as it relates to the proposed project shall be described. Additionally, the name, role to be played in the project and qualifications (education and experience) as they specifically relate to this role should be provided to DCPS by the contractor for every professional or technical person whose services are to be employed in the conduct of the project.

II. Guidelines for Managing External Contracts.

1. an initial project conference. It is advisable to hold a meeting with the contractor immediately after the award of the contract, to bring the contractor up to date regarding any changes that may have occurred since the submission of the bid or proposal and to derive any implications that such changes might have for the conduct of the research or evaluation. During this initial conference, the OEA will indicate the points at which it will conduct progress reviews and what assistance (if any) it will provide in terms of the analysis of data.

2. modifications in the contracted evaluation/research. Significant modifications in the evaluation project occuring at the time of the initial project conference or subsequently, shall be subject to the approval of DCPS; with approval reflected in a memorandum of understanding from DCPS to the contractor (with copies to other involved parties) specifying the changes as well as any implications for modification in scheduling or reimbursement to be received under the contract.

3. reports. The contractor shall simultaneously submit copies of draft and final (and, when applicable, interim progress) reports to the OEA and the DCPS program office. The OEA, using input from the program office, will exercise the right of approval of these reports.

4. final DCPS-contractor conference. A final conference may be conducted, the purpose of which is to provide a setting for informal communication between DCPS and the contractor regarding not only

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matters specific to the recently completed project, but areas of general concern to the contracting process as well. Specific issues which might be addressed include:

a. the adequacy of the RFP which provided the basis for the contractor's bid

b. the adequacy of the contract, in terms of its specificity and restrictiveness

c. the adequacy of funding to support the work provided (amount and schedule of reimbursement)

d. the adequacy of communications between the various involved parties during the conduct of the study (OEA, the DCPS project office, the contractor, the school sites, etc.)

e. clarification/elaboration of report content

III. Summary of Responsibilities

The following section summarizes the responsibilities assignable to the three major parties involved in the contracting and managing of research/evaluation services.

1. DCPS - Program Office The DCPS office with administrative responsibility for the program or project which is to be evaluated is responsible for:

   a. provision of information (to OEA) descriptive of the program to be evaluated, sufficient for OEA's generation of the RFP.

   b. provision of documentation (to the bidder via OEA) descriptive of the project to be evaluated (beyond that provided in the RFP) including its objectives, activities, population served, sites at which services are offered, etc.

   c. (in the case of external project funding) provision of documentation (to the bidder, via OEA) of funding agency preferences or requirements for specific evaluation designs, modes of analysis, etc.

   d. provision (to the bidder, via OEA) of a description of alternative programs to which the population of students served by the program to be evaluated would likely be exposed in the absence of the program to be evaluated.

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e. facilitation of communications between the contractor and the individuals (program personnel, etc.) who must be contacted during the course of the evaluation.

f. input (to OEA) regarding contractor report suitability.

2. DCPS-Office of Educational Accountability

a. preparation of RFP

b. selection of the winning proposal (incorporating DCPS program office input)

c. conducting bidder's conference or otherwise providing mechanisms to respond to potential contractor's questions.

d. evaluation and approval of draft/interim/final reports (incorporating DCPS program office input)

e. conducting initial project conference

f. (optional) provision of data analysis for evaluation of locally funded projects

g. conducting final project conference.

3. Bidder/Contractor

a. design of the evaluation (data sources, schedule and type of data collection, description of experimental and control exposures)

b. description of data collection instruments/procedures

c. description of organization/analysis of data

d. description of content and schedule of presentation of interim and final reports

e. schedule (bar chart or other) of major evaluation activities

f. description of organizational and staff experience/training relevant to proposed study

g. categorical project budget.

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APPENDIX C

1. Students who have been psychologically evaluated and found to be not eligible for participation in Dade County's Gifted Program, and who meet the following criteria, should be given first consideration for program participation.

2a. First grade students who obtained raw scores of 55 or higher on the Cooperative Preschool Inventory (CIP) administered on September 1, 1982.

b. Students in grade 1 who obtained stanine scores of 7, 8 or 9 on the Aural Comprehension and Environment sections of the Stanford Early School Achievement Test (SESAT) administered in February, 1981.

c. Students in grades 3-6 who obtained stanine scores of 7, 8 or 9 on the Reading Comprehension and Mathematics Concepts sections of the Stanford Achievement Test administered in February, 1981.

d. For those few students whose Stanford Test results are not available, as specified in a-c above, the appropriate level of the 1973 edition of the Stnaford Achievement Test should be administered. To be eligible for participation the student must obtain stanines 7, 8, or 9 on both subtests specified for the grade level of the student.

3. Should the application of the above criteria result in the identification of too few students, the principal will have the discretion of selecting other students with lower stanines. Students who are eligible for the Gifted Program who have not participated in said program during the current year may also be considered for participation.

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APPENDIX D

GOAL 2

CHALLENGE STUDENTS OF ALL LEVELS BEYOND MINIMUM EXPECTATIONS IN ORDER THAT EACH CHILD, WHILE EXPOSED TO THE BASICS OF A BALANCED GENERAL EDUCATION, BE PERMITTED TO ACHIEVE TO HIS/HER POTENTIAL IN ACCORDANCE WITH INDIVIDUAL NEEDS, DESIRES, AND TALENTS.

Students who demonstrate the potential for academic excellence must have opportunities to strive towards a high level of academic challenges. Appropriate experiences must be provided in the arts and sciences, in foreign languages, social sciences, and technical areas so that the gifted and talented students of today might become the outstanding leaders of tomorrow.

GOAL 4

PLAN AND IMPLEMENT A COMPREHENSIVE PROGRAM OF CITIZENSHIP AND CHARACTER EDUCATION WHICH INCLUDES CONCEPTS RELATED TO: RESPECT FOR THE RIGHTS OF OTHERS, RESPECT FOR LAW, THE NEED FOR GOVERNMENT, AND AN ORDERLY WAY OF LIFE.

Schools have a part to play in ensuring that students acquire and continually improve the habits and attitudes necessary for responsible citizenship. It is important that all students acquire citizenship knowledge, skills, and attitudes if they are to fulfill their civic roles successfully. Honesty, justice, tolerance; and knowledge of basic freedoms, rights, and responsibilities shall be integral to this comprehensive program.

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GOAL 18

FIND WAYS OF EFFECTIVELY ADDRESSING THE SPECIAL NEEDS OF INNER-CITY SCHOOLS AND SCHOOLS WITH SIMILAR CONCERNS, SO AS TO ENSURE EQUAL EDUCATIONAL OPPORTUNITY FOR ALL STUDENTS IN THE DADE COUNTY PUBLIC SCHOOLS .

The School Board in January, 1981, received a report on problems critical to inner-city schools and schools with similar concerns. The report indicated the need to provide the best teachers possible and to assure the physical safety of pupils and staff within the schools themselves. An additional problem identified was the need for adequacy of materials, equipment, and supplies for inner-city students. If staff is to meet system-wide instructional goals, there must be a districtwide commitment to make the tools of education equally available to all students.

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GOAL 24

CONTINUE TO IMPROVE CONTRACT MANAGEMENT SKILLS

In order to properly implement and administer labor contracts negotiated with Dade County Public School employee organizations, major efforts will be expended to communicate to all employees the provisions of such contracts. Administrators must gain mastery of the various aspects of labor contract provisions, including knowledge of and adherence to timelines, notice requirements, and other procedural elements.

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APPENDIX E

BLOOM'S TAXONOMY

WORDS FOR STATING PERFORMANCE OBJECTIVES

MORE SIMPLE ← COGNITIVE PROCESSES → MORE COMPLEX

1 KNOWLEDGE	2 COMPREHENSION	3 APPLICATION	4 ANALYSIS	5 SYNTHESIS	6 EVALUATION
Count	Associate	Interpret	Illustrate	Order	Appraise
Define	Compare	Interpolate	Relate	Group	Assess
Draw	Contrast	Predict	Solve	Relate	Critique
Identify	Compute	Translate	Use	Transform	Determine
List	Describe	Apply	Utilize	Organize	Grade
Name	Differentiate	Calculate	Analyze	Integrate	Judge
Point	Disguise	Classify	Detect	Plan	Measure
Quote	Distinguish	Complete	Infer	Prepare	Rank
Read	Estimate	Demonstrate	Explain	Prescribe	Rate
Recall	Extrapolate	Examine	Summarize	Produce	Test
Recite			Arrange	Propose	
Recognize			Combine	Specify	
Record			Design		
Repeat			Develop		
State					
Write					

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EXAMPLES: APPENDIX F

	YES	NO
A. ICE CREAM TASTES BETTER THAN SALT.		
B. THE MIAMI DOLPHINS IS NOT THE BEST FOOTBALL TEAM.		

LISTEN TO TEACHER'S INSTRUCTIONS

	YES	NO
1. I LIKE SCHOOL.		
2. I LIKE MY MASE CLASS.		
3. MOST OF THE STUDENTS IN MY MASE CLASS ARE FRIENDLY WITH EACH OTHER.		
4. I TRY HARD IN MY MASE CLASS.		
5. I LEARN A LOT IN MY MASE CLASS.		
6. I WANT TO BE IN MASE NEXT YEAR.		
7. THE THINGS I DO IN MY MASE CLASS ARE INTERESTING.		
8. I AM AS SMART AS THE OTHER STUDENTS IN MY MASE CLASS.		
9. THE WORK I DO IN MY MASE CLASS MAKES ME THINK.		
10. I WISH I COULD SPEND MORE TIME IN MY MASE CLASS.		

MOTIVATE AND STIMULATE FOR EXCELLENCE (MASE) PROGRAM
STUDENT SURVEY - INTERMEDIATE FORM (GRADES 3-6)

APPENDIX G

DIRECTIONS:

You can help to make the MASE program better by giving careful thought to each of the questions that follow. Please respond to each of the questions by darkening the appropriate space on your separate answer sheet. Keep in mind that there are no right or wrong answers to any of these questions. Your honest response to each question will be the best answer. We appreciate your cooperation and assistance in helping us to evaluate the MASE program. Indicate the extent to which you agree or disagree with each of the following statements according to the scale below.

Strongly Disagree (A/F)	Disagree (B/G)	Uncertain (C/H)	Agree (D/J)	Strongly Agree (E/K)

1. Most days I'm happy to come to my MASE class.
2. Most of the students in my MASE class are friendly with each other.
3. The work I do in my MASE class is hard.
4. I am proud of being selected for participation in the MASE program.
5. I am lucky to get to attend MASE.
6. My MASE teacher makes me feel like he/she wants me to learn.
7. The furniture in my MASE classroom is in good condition.
8. I like the way my MASE classes are run.
9. In my MASE class we do many things that interest me.
10. I make up the work that I miss in my regular classes while attending MASE.
11. My participation in the MASE program has helped me to learn about many new things.
12. My parents are satisfied with the work I do in my MASE class.
13. I am as smart as the other students in my MASE class.
14. My participation in the MASE program has helped me to develop better study habits.
15. The work that I do in my MASE class is challenging.
16. Participation in the MASE program has increased my motivation to learn.
17. Participation in the MASE program has helped me to develop my self-confidence.
18. I would like to be in MASE during the next school year.

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APPENDIX H

MOTIVATE AND STIMULATE FOR EXCELLENCE (MASE) PROGRAM
PARENT QUESTIONNAIRE

School Name: _____ ☐☐☐☐

Child's Sex: (check one) Male ____ (1) Female ____ (2)

What is the ethnic origin of your child? (check one)

White, Non-Hispanic __(1) Black, Non-Hispanic __(2) Hispanic __(3)

American Indian/Alaskan Native __(4) Asian/ Pacific Islander __(5)

Child's Grade: _____

Did you visit your child's MASE program during this school year?

Yes ____ (1) No ____ (2)

For each of the following statements please indicate the extent of your agreement or disagreement by selecting the appropriate number from the scale below, and writing it on the line to the right of each item. Please note: if you feel that you do not have enough information to respond to a statement, place a zero on the line to the right of that item.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree	Not Enough Information
1	2	3	4	5	0

School personnel adequately oriented me to the MASE program. ____

The MASE program's instructional facilities are adequate. ____

The criteria my child had to meet to qualify for the MASE program were clearly explained to me. ____

The criteria my child had to meet to qualify for the MASE program seem reasonable. ____

My child is exposed to instructional activities of an appropriate nature given the goals of the program. ____

The amount of time per week that my child spends in the MASE program seems to be sufficient. ____

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Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree	Not Enough Information
1	2	3	4	5	0

My child's regular class teachers have a favorable opinion of the MASE program. ____

I can see positive changes in my child at home as a result of his/her participation in the MASE program. ____

The MASE teacher is readily available if I request a conference. ____

My child is able to "keep up" with lessons in the regualr class. ____

The MASE program teacher keeps me adequately informed of my child's progress. ____

The MASE teacher at my child's school is sufficiently qualified to teach in the MASE program. ____

My child is able to "keep up" with lessons in the MASE program. ____

My child needs specialized instruction such as that offered in the MASE program to maximize his/her potential. ____

My child enjoys being in the MASE program. ____

My child receives a sufficient amount of individualized attention in the MASE program. ____

Regular class teachers expect my child to make up work that was missed while he/she was receiving MASE instruction. ____

I feel that my child should make up work that was missed while he/she was receiving MASE instruction. ____

I am satisfied with the MASE instructional procedures. ____

Cooperation between my child's MASE and regular class teachers seems to be good. ____

I would like to see my child continue in the MASE program. ____

Comprehensive Assessment Program

APPENDIX I

Developing Cognitive Abilities Test

2

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Name _____

School _____ Grade _____

Teacher _____

Test Date Mo. Day Yr. _____

Birth Date Mo. Day Yr. _____

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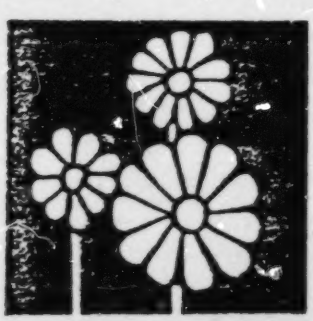

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ROSS TEST OF HIGHER COGNITIVE PROCESSES

TEST BOOKLET

John D. Ross, MA and Catherine M. Ross, MEd

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Name _____
Last First Middle

School _____ Grade _____

Home Room Teacher _____

Test Date _____
Year Month Day

EXP CON

Section	Score	Percentile
I		
II		
III		
IV		
V		
VI		
VII		
VIII		
TOTAL		

FIRST TESTING SESSION

Section I, Analogies

Time limit: 10 minutes

Read each sentence. Think about the relationship between the two words and find a word which relates in the same way to the underlined word.

Example: "Wheat" is to "grow" just as house is to

A. place ..... (A) ☐
B. build ..... (B) ☒
C. grain ..... (C) ☐
D. cottage ..... (D) ☐
E. find ..... (E) ☐

You would choose option (B), build, for in order to have wheat you must grow it, and in order to have a house you must build it. Now, try the next example:

Example: "Wing" is to "bird" just as foot is to

A. inch ..... (A) ☐
B. shoe ..... (B) ☐
C. hand ..... (C) ☐
D. walk ..... (D) ☐
E. man ..... (E) ☒

You would choose option (E), man, since wings enable a bird to move and feet enable a man to move.

When you are told to do so, read the sentences on the following page and choose the correct word.

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